

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re United States Patent Application of:)	Docket No.:	4115-197	
)			
)			
Applicants:	SCHREIER, Harold J., et al.)	Conf. No.:	6432
)		
)			
Application No.:	10/588,256)	Art Unit:	1724
)		
Date Filed:	July 29, 2006)	Examiner:	Not Yet Assigned
)		
)			
Title:	DISSIMILATORY SULFATE REDUCTION AS A PROCESS TO PROMOTE DENITRIFICATION IN MARINE RECIRCULATING AQUACULTURE SYSTEMS)	Customer No.:	
)		
)			
)			
)			

23448

FIRST CLASS MAIL CERTIFICATE

I hereby certify that I am mailing the attached documents to the Commissioner for Patents on the date specified, in an envelope addressed to Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313, First Class Mailed under the provisions of 37 CFR 1.8.



Barbara Owens

November 1, 2006Date of Mailing

 INFORMATION DISCLOSURE STATEMENT IN
 U.S. PATENT APPLICATION NO. 10/588,256

Mail Stop Amendment
 Commissioner for Patents
 P.O. Box 1450
 Alexandria, Virginia 22313-1450

Sir:

Pursuant to 37 C.F.R. §1.56, the attention of the Patent and Trademark Office is hereby directed to the reference(s) listed on the attached Information Disclosure Statement forms PTO/SB/08a and PTO/SB08b. One copy of each foreign patent and each non-patent reference are attached. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the reference(s) be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

This Information Disclosure Statement is being filed before the mailing date of a first Office Action on the merits. No certification or fee is required.

Respectfully submitted,



Steven J. Hultquist
Reg. No. 28,021
Attorney for Applicants

INTELLECTUAL PROPERTY/
TECHNOLOGY LAW
Phone: (919) 419-9350
Fax: (919) 419-9354
Attorney File No.: 4115-197

Enclosures:

IDS Forms PTO/SB/08a and PTO/SB/08b [3 pg(s).]

Foreign Patent References [59 pgs.]

Non-Patent References [107 pgs.]

Return Postcard

<p>The USPTO is hereby authorized to charge any deficiency or credit any overpayment of fees properly payable for this document to Deposit Account No. 083284</p>

PTO/SB/08a (09-06)

Approved for use through 03/31/2007. OMB 0651-0031
U.S. Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE
A collection of information unless it displays a valid OMB control number
is subject to the provisions of the Paperwork Reduction Act.

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Shee

1

1

3

Complete if Known

Application Number	10/588,256
Filing Date	7/29/2006
First Named Inventor	Schreier et al.
Art Unit	1724
Examiner Name	Not Yet Assigned
Attorney Docket Number	4115-197

U.S. PATENT DOCUMENTS

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document Country Code ² - Number ³ - Kind Code ⁴ (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁵
/FP/	AC	JP - 2002-159992 - A	06-04-2002	Boku, Wanchor, et al.		✓
/FP/	AD	WO - 98/07664 - A1	02-26-1998	Van Loosdrecht, Marinus Cornelis Maria, et al.		

Examiner Signature	/Fred Prince/	Date Considered	03/26/2008
-----------------------	---------------	--------------------	------------

***EXAMINER:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹Applicant's unique citation designation number (optional). ²See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Substitute for form 1449B/PTO				Complete if Known	
				Application Number	10/588,256
				Filing Date	7/29/2006
				First Named Inventor	Schneier et al.
				Art Unit	1724
				Examiner Name	Not Yet Assigned
Sheet	2	of	3	Attorney Docket Number	4115-197

NON PATENT LITERATURE DOCUMENTS						
Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.				
/FP/	AE	DAIMIS, H., ET AL., Novel Nitrosira-like bacteria as dominant nitrite-oxidizers in biofilms from wastewater treatment plants: diversity..., Water Science and Technology, 2000, Page(s) 85-90, Volume 41, Number 4-5				
/FP/	AF	HOVANEC, T.A., ET AL., Comparative analysis of nitrifying bacteria associated with freshwater and marine aquaria, Appl. Environ. Microbiol., August 1996, Page(s) 2888-2896, Volume 62, Number 8				
/FP/	AG	KLOEP, FRANK, ET AL., Performance and microbial structure of a nitrifying fluidized-bed reactor , Wat. Res., January 1, 2000, Page(s) 311-319, Volume 34, Number 1				
/FP/	AH	MEGONIGAL, J.P., ET AL., Anaerobic metabolism: Linkages to trace gases and aerobic processes, Biochemistry (W.H. Schlesinger, Ed), 2004, Page(s) 359-361, Publisher: Elsevier-Pergamon, Published in: Oxford, UK				
/FP/	AI	O'DONNELL, ANTHONY G., ET AL., 16S rDNA methods in soil microbiology , Current Opin. Biotech., June 1999, Page(s) 225-229, Volume 10, Number 3				
/FP/	AJ	PRINCIC, ALENKA, ET AL., Effects of pH and Oxygen and Ammonium Concentrations on the Community Structure of Nitrifying Bacteria from Wastewater , Appl. Environ. Microbiol., October 1998, Page(s) 3584-3590, Volume 64, Number 10				
/FP/	AK	RUSTEN, BJØRN, ET AL., Moving bed biofilm reactors and chemical precipitation for high efficiency treatment of wastewater from small..., Water Sci. Tech., 1997, Page(s) 71-79, Volume 35, Number 6				
/FP/	AL	RUSTEN, B., ET AL., Pilot testing and preliminary design of moving bed biofilm reactors for nitrogen removal at the FREVAR wastewater..., Water Sci. Tech., 2000, Page(s) 13-20, Volume 41, Number 4-5				
/FP/	AM	STROUS, MARC, ET AL., Missing lithotroph identified as new planctomycete, Nature, July 29, 1999, Page(s) 446-449, Volume 400, Number 6743				
/FP/	AN	TAL, YOSSI, ET AL., Characterization of the microbial community and nitrogen transformation processes associated with moving bed..., Aquaculture, January 10, 2003, Page(s) 187-202, Volume 215, Number 1-4				

Examiner Signature	/Fred Prince/	Date Considered	03/26/2008
--------------------	---------------	-----------------	------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

*Applicant's unique citation designation number (optional). *Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

PTO/SB/08b (09-06)

Approved for use through 03/31/2007. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

U. S. Patent and Trademark Office; U. S. DEPARTMENT OF COMMERCE 10551-0031
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Substitute for form 1449B/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 3 of 4

<i>Complete if Known</i>	
Application Number	10/588,256
Filing Date	7/29/2006
First Named Inventor	Schreier et al.
Art Unit	1724
Examiner Name	Not Yet Assigned
Attorney Docket Number	4115-197

NON PATENT LITERATURE DOCUMENTS

Examiner Signature	/Fred Prince/	Date Considered	03/26/2008
-----------------------	---------------	--------------------	------------

Considered

"EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 809. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.
Applicant's unique citation designation number (optional). *Applicant is to place a check mark here if English language Translation is attached.
The following is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Consideration of a filing by 35 U.S.C. 122 and 37 CFR 1.91. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed form(s) to the USPTO. This burden may vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing burden should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.